

# INDUSTRIAL STANDARDIZATION

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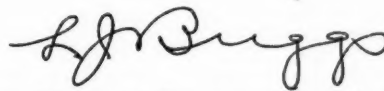
and Commercial Standards Monthly

AUG 1 1933

## *To Subscribers of the "Commercial Standards Monthly":*

As this goes to press, plans are under way for the gradual taking over by the American Standards Association of the Trade Standards, Simplified Practice, and allied activities of the Commercial Standardization Group of the National Bureau of Standards. This move, growing out of the Government economy program, merges in a single national organization, representative of both Governmental and private interests, the responsibility for these phases of national industrial standardization.

With the taking over of these activities by the American Standards Association, the Bureau of Standards discontinues the separate publication of the *Commercial Standards Monthly*, which with this issue becomes a part of *Industrial Standardization*. The combined journal will be published by the American Standards Association with the cooperation of the Bureau of Standards along the lines of its own interests in standardization.



Director, National Bureau of Standards

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# AMERICAN STANDARDS ASSOCIATION

29 West Thirty-Ninth Street New York

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*The American Standards Association is organized to provide systematic means of cooperation in establishing American Standards to the end that duplication of work and the promulgation of conflicting standards may be avoided; to serve as a clearing house for information on standardization work in the United States and foreign countries; to act as the authoritative American channel in international cooperation in standardization work*

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## Bureau of Standards Transfers Five Sections to ASA

*ASA to take over functions of Simplified Practice, Commercial Standards, and Specifications Divisions; also Safety and Building and Plumbing Codes Sections*

Following preliminary agreement between Secretary of Commerce Daniel C. Roper and President Howard Coonley of the American Standards Association acting for the ASA Board of Directors, the essential functions of the following Divisions and Sections of the National Bureau of Standards will be transferred to the American Standards Association:

Division of Trade Standards  
Division of Specifications  
Division of Simplified Practice  
Building Code and Plumbing Code Sections of  
the Building and Housing Division  
Safety Code Section

The agreement, reached as this issue goes to press, is contained in the following letters between the Secretary and Mr. Coonley:

Mr. Howard Coonley;  
President,  
American Standards Association,  
New York, N. Y.

My dear Mr. Coonley:

The Bureau of Standards is discontinuing most of the work which it has been carrying on in the field of simplification, commercial standards, safety codes, and building codes. This step, undertaken in the belief that these functions should be in the hands of industry and consumer groups, is being carried out as a part of the government economy program.

I am pleased that we shall be able to count on the American Standards Association to carry on the essentials of this work, which, as a result of our discussions, I now understand the Association will be prepared to do. Its experience and standing as the national clearing house for industrial standardization, and the cooperative methods which it has developed during the past 15 years fit it for the increased responsibilities and the enlarged program entailed. It is thus possible to conserve the results of these pioneering services to industry which the Bureau of Standards has developed during the last 12

years, and to further the national economy by carrying these services forward.

I can assure you that the full cooperation of the Bureau of Standards will at all times be available both in carrying through the transfer with a minimum of disruption of the work, and also in providing through the Bureau's facilities at least a part of the research work necessary in connection with standardization projects.

Sincerely yours,

DANIEL C. ROPER  
Secretary of Commerce

July 10, 1933

The Secretary of Commerce,  
Washington, D. C.

Dear Mr. Secretary:

Permit me to acknowledge the receipt of your letter of July 10 advising us of the discontinuance of certain activities of the Bureau of Standards in the field of simplification, commercial standards, safety codes, and building codes.

We are grateful for your confidence in the ability of the American Standards Association to carry on this important work in behalf of industry and consumer groups. Preparation for the taking over of the work will be begun without delay, and we shall avail ourselves of the cooperation you are good enough to offer.

You are probably aware that the American Standards Association, as a federation of trade associations, technical societies, and governmental departments, depends for financial support on the voluntary membership dues of associations and companies. Our most pressing immediate task, if we are to continue the new work effectively, is to obtain a substantial increase in our financial support. I can assure you that every effort will be made to accomplish this end. And since the Department's action is largely in recognition of the desire of industry to carry on standardization through its own cooperative

organization, I have no doubts concerning the ultimate success of our efforts.

We hope to be able to continue the effective and valuable work of the Bureau, and that from the Bureau's action there will emerge a strong, well-knit standardization agency and a single system of national standards. We are confident that when this is achieved, the value of the separate programs of the Bureau and the ASA will have been multiplied many fold.

Sincerely yours,

HOWARD COONLEY

President, American Standards Association  
July 12, 1933

Secretary Roper has arranged for the Bureau to maintain during a transition period a skeleton organization to facilitate the transfer. This organization will consist of the following Division chiefs: I. J. Fairchild, Division of Trade Standards; Edwin W. Ely, Division of Simplified Practice; A. S. McAllister, Division of Specifications; J. S. Taylor, Building and Housing Division; and M. G. Lloyd, Safety Section.

In line with the transfer of functions, the *Commercial Standards Monthly*, the commercial standards organ which was published by the Bureau of Standards, is being consolidated with *INDUSTRIAL STANDARDIZATION*, the consolidation becoming effective with the present issue (see letter of Dr. Briggs to *Commercial Standards Monthly* subscribers on front cover of this issue).

#### *Actions taken by ASA Board*

Prior to the receipt of Mr. Roper's letter and after preliminary discussions, the ASA Board of Directors passed the following resolutions:

*Resolved*, That in the opinion of the Board the general field of activity of the following Divisions and Sections of the Bureau of Standards clearly lies within the scope of the American Standards Association as defined in its Constitution:

Division of Trade Standards ("Commercial Standards")  
Division of Specifications  
Division of Simplified Practice  
Building Code and Plumbing Code work of the Division of Building and Housing  
Safety Standards Section

*Resolved*, That it is the sense of the Board that in so far as its resources and facilities permit,

these functions should be taken over by the American Standards Association.

It was also decided by the Board to have the President appoint a special committee and to request the chairman of the Standards Council to appoint a similar committee, these two committees to act jointly with full power (a) to make a thorough study of the administrative problems involved in a transfer of functions to the ASA; (b) to develop and to put into operation the emergency measures necessary to effectuate the transfer to the ASA of such functions; (c) to propose as a permanent solution such changes in the organization and in the methods of administration of the ASA as in the judgment of the joint committee will best provide for the additional responsibilities about to be placed upon the Association.

Subsequent to these actions the following special committees were appointed:

#### *Special Committee of the Board of Directors—*

Howard Coonley, President, Walworth Company, New York

Lyman J. Briggs, Director, Bureau of Standards, Washington, D. C.

Cloyd M. Chapman, Consulting Engineer, New York

Bancroft Gherardi, Vice-President, American Telephone and Telegraph Company, New York

#### *Special Committee of the Standards Council—*

J. C. Irwin, Valuation Engineer, Boston and Albany Railroad, Boston, Mass.

Alexander Maxwell, Director of Engineering, Edison Electric Institute, New York

S. L. Nicholson, Acting Vice-President, Westinghouse Electric and Manufacturing Company, New York

Further details of the transfer will be published in the August issue.

### New Federal Specifications

The following Federal Specifications for foods, approved for promulgation by the Federal Specifications Board of the National Bureau of Standards, may be purchased at five cents per copy from the Government Printing Office, Washington, D. C., or may be borrowed or purchased from the office of the American Standards Association: cottage cheese; Swiss cheese; dressed ducks; dressed geese; dressed turkeys; dressed chickens (broilers, fryers, and roasters); dressed fowl (fricassee); live poultry; dressed rabbits.



# National Standardization in America

by

P. G. Agnew, *Secretary*  
American Standards Association

*What industrial standardization is; types of standards; why standards are needed; standardizing agencies; when to standardize*

The launching of the new program of co-operative action under the National Recovery Act—in which the trade association has been assigned the strategic role—makes the publication of parts of Dr. Agnew's address on "National Standardization in America" particularly timely. The paper from which the following is abstracted was presented before the Convention of the Society of Motion Picture Engineers in New York, April 27, 1933. Directing attention to the position of the trade association in the industrial standardization movement, the paper will be of special interest at the present time to trade association leaders who must decide when and what to standardize, and whether the standards should be association standards or American Standards.

Dr. Agnew outlines some of the principles upon which the development of national standards is based, and calls attention to difficulties which are inevitably met in bringing about cooperation between varied groups and interests.

The scope of the standardization activities in which technical societies and trade associations are engaged is entirely too great to be covered in a single paper. I shall, therefore, omit from this discussion many important activities in such fields as the standardization of accounting methods, bills-of-lading, trade practices, codes of ethics, methods of arbitrating disputes, etc., and deal primarily with the standardization of things.

In order to be explicit on fundamentals we may say that this type of industrial standardization means to single out specific products and materials, to settle upon their properties and dimensions, and to con-

centrate upon them in production and in use—all to the end of bringing about the greatest over-all industrial efficiency.

Within this seemingly limited field of industrial standardization there are actually a great many different types of standards which must be included in any complete standardization framework. It will be helpful to classify these various types.

It is almost always necessary to start with the standardization of nomenclature, if our subsequent standards are not to be wasted because their terminology is confused.

We have, then:

1. Nomenclature, which includes:
  - Definitions of technical terms used in specifications and in contracts, and in technical literature
  - Abbreviations
  - Letter symbols for quantities used in equations and formulas
  - Graphical symbols (ideographs or pictographs) used on drawings, schematic diagrams, and the like
2. Uniformity in dimensions necessary to secure interchangeability of parts and supplies and the inter-working of apparatus
3. Specifications for quality of materials and products
4. Methods of test for materials and products
5. Ratings of machinery and apparatus which establish test limits under specified conditions as a basis of purchase specifications, or which establish requirements as to performance, durability, safety, etc. under operation
6. Provisions for safety of workers engaged in production or use of machinery and equipment
7. Standard processes and operations for industrial establishments

8. Standards providing for concentration upon the optimum number of types, sizes, and grades of manufactured products

This is a simple classification for practical purposes. Other classifications may be and have been worked out on other bases, such as the following developed by the National Bureau of Standards:

1. Standards of measurement
2. Standards of constants
3. Standards of quality
4. Standards of performance
5. Standards of practice

Another important classification of standards relates to the scale upon which they are planned and carried out. The process of industrial standardization may be classified roughly into four stages; namely:

1. By individual companies
2. By societies or associations
3. On a national scale
4. On an international scale

Every industrial plant is carrying on standardization of its own products and processes, and its competitive success largely depends upon the cleverness and thoroughness with which it has studied and solved these problems. Standardization within the plant has been an essential factor in the development of mass production, and mass production in turn has been the chief contribution of the United States to industrial development.

Standardization within individual companies, which had its greatest rate of growth during the last half of the Nineteenth Century, gave rise to collective standardization for entire industries. Such standardization by industries, carried on by technical societies and trade associations, has for the most part been a product of this century. The present extensive use of electric motors and lamps would have been impossible had it not been for the collective standardization carried on in the electrical industry, not only in fundamentals such as voltages and frequencies, but also in such details as the interchangeability of lamp bases and sockets. To cite another example, the adoption of a standardized track gage and of a standard system of interchangeable brakes and couplings was a necessary step in the development of our railroad system. Had these standards not been adopted early in the period of railway construction, it would have seriously retarded not only the growth of transportation facilities, but also our entire national industrial development which required these facilities.

Just as standardization by individual companies led

to standardization by industries, so standardization by industries has in turn been found insufficient because so many problems affect numerous diverse industries and require common solution. This has led to inter-industry or national standardization in behalf of industry as a whole, technical and trade associations here playing the same role as individual companies in group standardization.

That standardization can not reach its greatest effectiveness until it is treated as a national problem has been recognized in all the leading industrial countries. At present there are national standardizing bodies in 22 countries, all but one of which were organized during or since the war. The American Standards Association, the national standardizing body in this country, was organized in 1918. Just why national standardization is in so many cases necessary—simple industry standards not being sufficient—can best be judged from an actual case.

The establishment of specifications for railroad ties would seem to be a simple and straightforward matter. Yet even this very specialized subject is a striking illustration of the complexity of group interests. Twelve national organizations were officially represented on the technical committee on railroad ties organized under ASA procedure. Representation of three organizations was required to cover completely the steam and electrical railways, five organizations to cover producers, and an additional one for the wood preservers.

Naturally, much less has been accomplished in international industrial standardization than in national work. Yet beginnings have been made in several fields and in some lines there has been substantial progress.

#### *Group standards*

Much of the pioneering in group standardization activities has been done by technical societies. Nearly all of the group standardization activities have developed during the present century. The interests and activities of associations have, however, been rapidly increasing and the trade association has already become a dominant factor in the movement.

In a trade association, corporate management as such is directly represented. In most professional societies this is not the case, since the basis of organization is the individual. This is, I believe, the basic reason for the steadily increasing role which the trade association is playing in the standardization movement. Decision and authority cannot be permanently separated. It is fundamental in human nature that management should wish to be in a position to control decisions affecting its own policies. The normal

agency for bringing this about in cooperative work affecting competing companies is the trade association.

These fundamental differences in points of view and in types of organization have, in a number of instances, led to jurisdictional struggles between technical societies and trade associations as to which organization should be in charge of standardization programs. In extreme cases these jurisdictional disputes have been based on radically different philosophies of what the nature of a standard should be—whether it should be an ideal placed before industry as an inspiration and a goal; or whether it should be a day-by-day working tool of industry, forged through the give-and-take necessary in the work-a-day industrial world, and therefore necessarily bearing the marks of the grime of the shop.

It is unnecessary to add that people generally are not much interested in "paper standards," but only in such standards as are useful as working industrial tools.

Nearly all of the national engineering societies are carrying on standardization activities, some of them on an extensive scale. While by no means all trade associations carry on standardization work, several hundred of them are active. Of the 474 national organizations participating in the work of ASA, the great majority are trade associations and technical societies. Four hundred and eleven technical societies and trade associations carry on standardization activities of sufficient importance to have separate summaries of their work in the *Standards Year Book* issued by the National Bureau of Standards.

#### *American Standards Association*

The central clearing house of the national industrial standardization movement in this country is the American Standards Association, which provides the forum by which industry carries its standardization work to the national stage.

The ultimate authority for the policies and affairs of ASA, which is essentially a federation of national organizations, rests in the hands of the 37 constituent organizations known as Member-Bodies. These include eleven technical societies, eighteen national industrial associations, and eight departments of the Federal Government. Dues for Member-Bodies are \$500 a year for each representative on the Standards Council, no Member-Body being permitted to have more than three representatives. Company Members pay annual subscriptions based upon a minute percentage of their total annual business.

General direction of the affairs of ASA is in the hands of a Board of Directors of sixteen industrial executives.

*Method of work.*—In its work as an industrial forum or legislature, ASA brings together all those directly concerned with a project to formulate a workable and acceptable standard, and to submit it for approval to the authorized committee representing all the groups having a major interest in the problem in hand—including producers, consumers, and general interests. When the great preponderance of committee opinion is favorable to the standard in question, it is submitted to ASA for approval as an American Standard, with the full knowledge that it represents a real national consensus.

Any responsible body, whether a member of ASA or not, may request the initiation of a standardization project. Opportunity to cooperate in technical work is in no wise contingent upon financial support. A technical staff carries on the central office work in connection with the various projects. The final approval of standards rests with the Standards Council made up of representatives of the 37 Member-Bodies of the Association.

Some 474 national organizations are officially co-operating in the establishment of American national standards through 2,700 technical experts appointed as their representatives.

*A typical undertaking.*—A fine example of the co-operative methods used in national standardization projects is in a field far removed from your own. Specifications for wood poles for power and communication lines were drawn up by a technical committee consisting of 40 men representing 23 national bodies. These include representatives of the power, telephone, telegraph, municipal, and steam and electric railway groups, and also such diverse groups as the American Wood Preservers' Association and the Federal Government—all of which have a substantial interest in the project. The work was completed on a thoroughly sound basis. Confusing elements intended merely for sales effect were eliminated. Also a false basis of competition between consumer groups was done away with; some of these consumer groups had attempted to rig their private specifications so as to "cut the heart out of the pie" leaving the crust for other groups. The new national specifications have already brought about a much freer national market than ever before existed. The product can now flow from the forest, through the treating plant and into use without having to be earmarked from the beginning for particular consumers. The far-reaching influence on the \$60,000,000 industry is indicated by the sale of 30,000 copies of the specifications in a year's time.

Late in 1932 a draft report was issued which contained definitions of some 3,500 terms used in all



branches of electrical science and industry. On the technical committee in charge of the project, which was initiated in 1928, there are about 40 persons representing 33 organizations, including national engineering, scientific, and professional societies, trade associations, government departments, and miscellaneous groups. This committee has seventeen subcommittees with a total personnel of 120 at work on different phases of the subject, and these in turn have called freely upon non-member experts, so that in all over 300 men in all the various fields concerned are aiding in the task.

#### *Government activity*

Various standardization activities are being carried on by the Federal Government, which is interested in industrial standardization in two ways: first, as a purchaser it is interested in an extraordinarily wide range of specifications for materials and apparatus; second, through its great research and service bureaus it is interested in innumerable standardization questions.

The Bureau of Standards is the most important of the governmental standardizing agencies. Its activities cover the necessary fundamental scientific research preparatory to the setting up of master standards for units of weights and measures as well as the maintenance of these standards and the derivation of working standards therefrom. Much pure scientific research is involved as well as research of immediate and practical value to industry, such as methods of technical analysis, testing of materials, etc. The Bureau acts as technical and scientific adviser on specifications to other departments and to state and municipal governments and carries on formal liaison work with trade associations and technical societies. Through its Division of Simplified Practice,<sup>2</sup> recommendations leading to the elimination of excessive varieties of products are made, while through its Commercial Standards Unit industry is aided in establishing standards primarily useful in the marketing of commodities.

The Federal Government is cooperating with industry and the various trade associations and technical societies in their standardization work, and is also tying in with the national movement through ASA. Cooperative relations between the Bureau of Standards and ASA are both intimate and active. The Bureau is officially represented on 83 ASA projects,

in 14 of which it is taking official leadership. By special cooperative arrangement between the Bureau and ASA certain Commercial Standards of the Bureau, at the specific request of the industries concerned, are being submitted to the American Standards Association for approval as American Standards.

#### *International cooperation*

An important aspect of the national standardization movement is that of international cooperation, which constitutes the fourth and most difficult stage in the standardization process. Naturally much less has as yet been accomplished internationally than nationally, yet beginnings have been made in several fields and in some of these there has been substantial progress.

Several international bodies are undertaking standardization work in particular fields, and the national bodies are in touch with each other and are exchanging information on many projects in process of development in their respective countries. Through these and other means, considerable international uniformity is being brought about in a number of specific subjects.

The International Standards Association is a federation of the national standardizing bodies of 18 countries, of which the American Standards Association is one. The main object of the international body is to promote uniformity between the national standards of the different countries. Through it an important service has been rendered in the systematic interchange of information between the various national bodies. Some 30 international technical committees have so far been organized.

#### *Factors for consideration in deciding whether to standardize*

Let us turn now to some of the factors which your committee thought it well to bring out in this discussion—factors which should be considered in deciding as a matter of policy the attitude of a society or an association toward a particular standardization proposal. Some of these factors are positive and some are negative.

1. We should never standardize anything merely for the sake of standardizing.

What conceivable merit can there be in uniformity for the mere sake of uniformity? It takes variety and spice from life, it tends to make us walk in lock-step, and is probably one of the chief reasons for the charge that is sometimes made that standardization,

<sup>2</sup> The transfer to the American Standards Association of the work of the Division of Trade Standards, Division of Specifications, Division of Simplified Practice, the Building Code and Plumbing Code work of the Building and Housing Division, and the work on Safety Codes is described elsewhere in this issue.



or even the machine itself, is tending to make robots of us all.

2. We should only standardize when a preliminary analysis of the facts makes it seem fairly clear that doing so may be expected:

- a. to result in important economies;
- b. to simplify and clarify operations;
- c. to safeguard persons and property from injury.

Stated in this way we may seem to be drastically restricting the field for standardization, but a little reflection will show that these three categories cover an enormous field.

3. Standards should as far as possible be planned as a structural part of a coordinated industry, not stuck on as mere patches.

Unfortunately, most industrial standards are as yet of the patch type. It is certain, however, that any fundamental economic planning, whether national, regional, or by industries, must embrace standardization as a basic part of its structure.

4. Standards should be developed wherever possible in the logical order, the basic ones and those of most general application coming first, and the more specialized and detailed ones coming later and being based upon the fundamental ones.

Here again commercial considerations and other realities of the situation often prevent what would otherwise be the most economical and logical order of development.

5. Very early consideration should be given to the policy to be followed in the introduction of a new standard into practice. This should be done, not only during the process of its formulation, but it should be considered even in arriving at a decision on whether to standardize.

For example, a company or an industry will frequently find it greatly to its advantage to cooperate fully in the development of a standard, even though it may not be feasible for the company to put the standard into operation immediately. The actual introduction can await an opportune time when other changes make it possible to introduce it economically. Numerous illustrations of this point could be given. For example, some groups are actively co-operating in the new specifications for manhole frames and covers although they do not expect to adopt them at once, but will rather work toward their introduction at such time as developments make this economical and convenient.

6. A standard based on performance requirements

is nearly always preferable to one based on construction details.

The reason for this is that it gives greater freedom in methods of production and frequently stimulates new developments. This is a point which should normally be considered in arriving at the initial decision as to whether a particular piece of standardization work should be undertaken.

7. The old idea of making things "special" in order to get the business of supplying parts and making repairs is now pretty thoroughly discredited.

Under modern conditions such a course usually keeps a firm out of more business than it retains for it. The evolution of industry under mass production methods has outmoded such narrow policies.

8. Standards dealing with dimensions, specifications, rating, etc., should be sufficiently clear and definite to serve as criteria in determining whether material, work or products comply with the standard.

That is to say, the requirements of the standard should be sufficiently sharp to serve as a "go" and a "not go" gage to accept or reject material, work, or products sold as complying with the standard.

#### *American national standards and association standards*

"A national standard implies a consensus of those substantially concerned with its scope and provisions. . . . The basic test to be applied in all cases is the fact of the assent, affirmatively expressed, of the groups having substantial interest in the standard."

This quotation from the first section of the formal procedure of ASA lays down the fundamental requirements for an American Standard. Approval of a standard by ASA means that all organizations concerned have had an opportunity to participate in the work, that the work has been carried out under a procedure that has been regular, open, and above board, and that the standard represents a real national consensus on what is best in American industrial practice, and hence that it either already does or may reasonably be expected to play a significant, if not a controlling, role in regard to the materials and processes involved in the standard.

There is a widespread but erroneous opinion that the primary difference between a standard suitable for approval as an American Standard and one that should remain a society or association standard is the length of time which is liable to elapse before revision becomes desirable. As a matter of fact this is a wholly secondary matter. When the ASA was first

organized a provision was inserted in the procedure preventing the revision of an American Standard more frequently than once in three years. Experience at once showed that any such a provision was wholly unnecessary and unworkable. The real question is whether industry finds the standard a workable and useful tool. Whenever additional information, new developments, or changing conditions in the industry make it desirable, a revision should be promptly carried through in order that the standard as a tool shall at all times have a good cutting edge. From the point of view of utility (which is the only reason for setting up a standard) it is immaterial whether a standard be revised in one year or in ten years. Revision should be made when, and only when, conditions make it desirable to resharpen the tool. The National Electrical Code, which is one of the most widely used American Standards, is regularly revised once every second year in order to keep it abreast of developments.

It is the business of a gyro-stabilizer to keep the ship on an even keel when it is being buffeted by waves, not to stop the ship. Just so it is the business of a successful standard to help industry to maintain itself in *dynamic equilibrium*, not in a *static* condition. The American Standards Association has for years carried the following statement on the title page of its *Year Book*:

Standardization is dynamic, not static. It means not to stand still, but to move forward together.

The number of group or association standards is, of course, enormously greater than the number of American national standards, and doubtless will always remain very much greater. This must needs be so, since a vast number of standards are required for highly specialized fields.

As the whole national movement develops, these association standards should be brought into consistency with such national standards as apply to the particular field. Similarly, the standards of individual companies, which in total will be far greater than the number of group or association standards, should in most part be brought into conformity both with the national and with the group standards which apply.

In a great number of cases a standard may be of interest only to a particular consumer interest and to the producer of the product covered. In such cases the standard is likely to remain in the group or association stage. For example, if an American Railway Association specification for locomotive whistles assures a product which is satisfactory to the railways and the manufacturers, there would be little to gain

by advancing this specification to the status of American Standard.

It frequently happens that a society or a trade association may wish to assist in carrying out a policy or in bringing about a result by developing a provisional standard which blazes a trail into new territory. This frequently, but by no means always, can best be done by handling the work as an association standard, even though the nature of the work is such that it should be used as a step in the development of a national standard.

There are often situations in which controversies or differences of opinion make it impossible, for the time being at least, to secure sufficient support for a standard for it to attain the status of an American Standard. Yet from the point of view of the group, maintenance of such a standard may be desirable, even though lack of support or even opposition makes it impossible to get national recognition.

#### *The human factor*

The human factor is far more important and far more difficult to handle in standardization work than are the purely technical and industrial sides of the problem. This is widely recognized by those who have had any considerable experience in such work. This applies not only to the negotiations often involving give and take necessary in the development of a standard, but also to the stage of deciding whether a standard shall be undertaken. The latter is closely connected with the instinctive conservatism, not to say suspicion, of the great majority of men to new developments and ideas.

Standardization is essentially a cooperative undertaking, whether the undertaking be in the company, in the group, or in the national stage. And, whether it be recognized or not, the human factor is pre-eminently the factor which requires most attention in the administration of any cooperative undertaking. For example, the question of the prestige of an individual, or of a company, or of a society often overshadows the engineering or even the economic difficulties encountered in the development of a simple engineering standard.

It is unfortunately a fact that as human beings most of our acts are determined by our emotions when we think that we are making decisions and doing things on a purely intellectual basis.

It seems to me that the technique of influencing human behavior in such undertakings, which necessarily have to be carried out by conference and committee methods, deserves an almost unlimited amount of study. Perhaps through such studies it may prove

possible to transform it from an art into the beginnings of a science.

For the present it is essential to remember that true cooperation can only be won, it can not be commandeered.

#### *Responsibilities of participating groups and individuals*

One of the weak points in the whole standardization movement is that the participating organizations and their representatives frequently fail to live up to their responsibilities. Unfortunately most people do not fully understand the meaning of representation and the responsibilities which it entails.

It is the duty of each participating organization to carry out with administrative orderliness, competence, and with reasonable promptness that part of the work for which it has assumed responsibility.

Likewise, each participating organization should assume responsibility before the world for the consequences of the acts of its authorized committees and representatives, scrupulous care being taken that no effort shall be made to shift this responsibility to others or in any sense to "hide behind the skirts" of any other organization or individual.

Furthermore, it is the duty of every representative: (1) to keep sufficiently in touch with his organization so that he can correctly interpret its attitude in the development of the work and can participate in decisions in committees; (2) to keep his organization informed of developments; (3) to act as a leader in the formulation of the policies of his organization in regard to the matters with which he is dealing; and (4) to refer back to his organization questions upon which he feels unauthorized to speak for it.

As a result of many sad experiences ASA has included the above principles in a formal statement of the principles under which it operates. Judged by these criteria, the majority of the numerous associations and societies with which I have had contact can not justly claim a consistent record for responsibility.

#### *Summary*

Perhaps it will facilitate your discussions to set forth in categorical form what seem to me to be essential functions in the movement which should be performed by the company, by technical and trade associations, and by the American Standards Association as the national standardizing body.

#### *The company—*

1. Standardization work should be specifically provided for and systematically organized, each department concerned taking an active part.

2. The company should cooperate actively in standardization work of the trade association, and through it, in the development of national standards.

3. Conversely, the set-up should be such as to permit an immediate start in the introduction of each new national or association standard which concerns the work of the company.

4. The head or heads of the standards organization should act as authoritative spokesmen of the firm in standardization work in their trade association, and should cooperate in the standardization activities of technical societies.

#### *Societies and associations—*

5. Technical and trade associations should have effective machinery for promptly getting a real consensus of all members concerned with a particular subject.

6. An educational function of the technical and trade associations should be to bring home to their members and to the executives of their member companies the economic importance of standardization, and its significance as a managerial tool.

7. In consultation with other groups and with the national body, each organization should decide what part of its standardization work is to be handled purely as an association matter on account of its scope and influence being limited to one narrow field without reflexes upon other industries, and what part needs cooperation with other groups, from the point of view of national standardization.

8. The organization should play a thoroughly responsible part, and should require responsibility on the part of its members and committees.

#### *The national body—*

9. In the present state of industrial development a national standardizing body should occupy a pivotal position in the whole industrial standardization movement. As more and more our industries are becoming so integrated as to function on a national scale, the standardization activities of the company and of the association have arrived at the point where they must head up in a true national movement, centered about a federated clearing house organization, but one whose functions should extend far beyond mere clearing-house work—a body which should not only strengthen, but which should give a new and broadened impetus and direction to the whole



movement, and in particular to company and to association standardization activities.

10. The national body should provide simple systematic methods for bringing about acceptable national standards. Its organization and methods should be sufficiently flexible to utilize existing machinery and yet leave free the use of other simple cooperative methods.
11. Its methods should make provision so that the organizations within any major division of industry may carry on their standards work more or less as a unit.
12. In general, each problem should be in the hands of a joint technical committee made up of representatives accredited for the purpose by the various industrial, technical, and governmental organizations concerned.
13. One of its most important immediate undertakings should be to broaden and unify the greater number of existing standards into a consistent system of national industrial standards.

## Foreign Standards Available from ASA

New foreign standards available to Sustaining-Members for loan or purchase through the ASA office are listed below. They are available in the language of the country under which they are listed. In requesting copies of the standards it is necessary to list only the ASA serial numbers preceding the titles. Send either a post-card or a note containing only the name of the person wishing to receive the standards, and the numbers of the standards desired. The card or envelope should be addressed to the American Standards Association, 29 West 39th Street, New York.

Serial Number	Holland
371.	Ships' fittings, deck plugs with screw
372.	Ships' fittings, vertical type bollards
373.	Pigments for painting purposes
374.	Turpentine for painting purposes
375.	Heavy-current paper-insulated cables
376.	Rubber-insulated conductors for heavy-current purposes, plain, steel-braided, and armored (1, 2, 3, 4 core), nominal tension 500 volts
377.	Rubber-insulated conductors for heavy-current purposes, plain, steel-braided, and armored (1, 2, 3, 4 core), nominal tension 1,000 volts
378.	Rubber-insulated conductors for heavy-current

purposes, steel-braided and armored (1, 2, 3, 4 core), nominal tension 500 volts

379. Rubber-insulated conductors for heavy-current purposes, steel-braided and armored (1, 2, 3, 4 core), nominal tension 1,000 volts
380. Rubber-insulated conductors for heavy-current purposes, lead sheath cables, method of test I, II, III
381. Rubber-insulated conductors for heavy-current purposes, lead sheathed cables, summary
382. Rubber-insulated conductors for heavy-current purposes, lead sheath cables, testing requirements
383. Rubber-insulated conductors for heavy current without armoring, nominal tension 1,000 volts
384. Rubber-insulated conductors for heavy-current purposes, without armor, nominal tension 3,000 volts

## New Federal Specifications

The following Federal Specifications, approved for promulgation by the Federal Specifications Board of the National Bureau of Standards, have been received in the ASA office, and may be purchased at five cents each from the Government Printing Office, Washington, D. C., or may be borrowed or purchased from the office of the American Standards Association: turpentine for paint; spiegeleisen; brazing solder; rubber-metal gasoline hose; ferromolybdenum; wiping cloths; clay building brick; gingham; unbleached drill; wire cloth; white cotton waste; colored cotton waste; seamless, round aluminum-alloy tubing; roofing slate; welders' helmets; brass paper fasteners; single-trip container steel drums for inflammable solids or oxidizing materials; steel drums for inflammable solids or oxidizing materials; steel drums; steel drums for inflammable or poisonous liquids; metal drums for acids and other dangerous articles; sand-lime brick; general specification for inspection of metals.

## Quality Standardization in Retail Trade

Quality standardization was listed as one of the outstanding problems in retail trade for the year 1933 in a survey among retail authorities throughout the country made by the *Retail Ledger*. A survey of retailing problems is made annually by the *Retail Ledger* and this is the first year in which quality standardization has been given prominent place.



## Statistical Methods Applied to Control of Industrial Products

The application of statistical methods to the control of industrial products is discussed by Dean Harvey, material and process engineer of the Westinghouse Electric and Manufacturing Company, in two articles appearing in the March and April issues of the *Electric Journal*. In clear, untechnical language intended for engineers who are not acquainted with statistical methods, Mr. Harvey describes briefly the essentials of sampling and testing and the use of the data obtained in predicting deviations in quality.

"The methods developed in this comparatively new field," Mr. Harvey states in concluding the articles, "concern every engineer in that they assist him in estimating the probable errors in experimentally determined results. Furthermore, the application of these methods to research, design, production, inspection, supply, and other engineering problems will result, it is believed, in definite economic advantages in any large industry."

Copies of the issues containing the articles may be borrowed by ASA Members through the ASA office or may be purchased at 25 cents per copy from the *Electric Journal*, 530 Fernando Street, Pittsburgh, Pennsylvania.

## 1933 Guide Published by A.S.H.V.E.

*The American Society of Heating and Ventilating Engineers Guide 1933* is now available. This eleventh annual edition of the standard reference volume on heating, ventilating, and air conditioning has been extensively enlarged and revised to include the latest results of research and modern engineering practice. Compiled by the foremost engineers in the profession, *The Guide 1933* embodies in its 45 chapters not only data developed at the A.S.H.V.E. Research Laboratory and cooperating institutions, but also the most practical and useful ideas of outstanding engineers in the profession.

The text section of *The Guide 1933* contains 608 pages, supplemented by 180 pages of manufacturers' catalog data with an index to modern equipment, also 64 pages of the A.S.H.V.E. roll of membership. There are 11 new chapters in this year's *Guide* including a new section on test instruments and methods.

Copies of *The Guide* may be purchased from the

American Society of Heating and Ventilating Engineers, 51 Madison Avenue, New York, at \$5.00 each, or may be borrowed or purchased through the office of the American Standards Association.

## Readings in Marketing

A revised edition of *Readings in Marketing*, a large volume of excerpts from numerous papers dealing with all phases of marketing problems, by Fred E. Clark, professor of economics in marketing, Northwestern University, has just been published by the Macmillan Company.

One chapter of the book, devoted to standardization, includes excerpts from the American Standards Year Book for 1931 on "What Standardization Does" and "Types of Industrial Standards," and also an excerpt from an address by Dr. P. G. Agnew, secretary of the American Standards Association, on the development of standards by associations. The chapter includes sections on simplified practice, federal grain standards, inspection service in cotton marketing, limitations of the federal standards for farm products, and other subjects relating to standardization of food products.

The price of the book is \$3.50.

## Ontario Prohibits Sale of Substandard Light Bulbs

Sale of substandard electric light bulbs has been prohibited in Ontario, Canada, since May 1, according to a report of the U. S. Department of Commerce. The Ontario Hydro-Electric Power Commission has advised retailers throughout the Province that the substandard bulbs must be discontinued as soon as present stocks have been exhausted, it was stated.

Merchants will not be permitted to purchase new supplies of lamp bulbs unless they conform to Hydro's standards and have obtained approval certificates. Stringent penalties are provided for violation of the new regulations, it was stated.

## Information on Purchase of Machine Tools

Data on the purchase of machine tools and several valuable articles on this subject are contained in the March issue of *Pacific Purchasor*. ASA Members may borrow a copy of this issue from the office of the American Standards Association, or copies can be purchased from the *Pacific Purchasor*, 433 California Street, San Francisco.

## Encyclopedia of Specifications Volume on Metals

A comprehensive treatment of the available material covering standards for metals and metal products is presented in the third volume of the *Encyclopedia of Specifications* entitled "Standards and Specifications for Metals and Metal Products," which has just been published by the Government Printing Office.

The book includes reproductions or suitable abstracts of all of the available nationally recognized specifications (a total of 1600) for commodities classified under the following headings: iron and steel; iron and steel manufactures; ferro-alloying ores, metals, and metal manufactures; aluminum, antimony, bismuth, cadmium, and cobalt; copper, brass, and bronze; lead, mercury, and nickel; precious metals, metal jewelry, and plated ware; clocks, watches, and dials; tin and zinc; miscellaneous ores, metals, alloys, and metal manufactures.

Methods of testing, chemical analyses, metallic coatings, and heat treatment of metals are included in the standards.

In addition to the standards and specifications, the book includes a list of trade associations, technical societies, and other organizations issuing standards and specifications for metals and metal products. An extended index lists every reference to any metallic commodity referred to in the standards.

The three published volumes of the *Encyclopedia of Specifications* form the completed section of the second part of a review of nationally recognized standards, specifications, simplifications, and testing methods in use in this country compiled by the National Bureau of Standards and the Bureau of Foreign and Domestic Commerce. The first part was published as the *National Directory of Commodity Specifications*, which lists and classifies all commodity specifications. The standards included in the present volume "Standards and Specifications for Metals and Metal Products" comprise the numerical classification designations 600 to 699 in the *National Directory of Commodity Specifications*.

The first two volumes of the *Encyclopedia of Specifications* are "Standards and Specifications in the Wood-Using Industries" published in 1927, and "Standards and Specifications for Non-Metallic Minerals and their Products" published in 1930.

Copies of the "Standards and Specifications for Metals and Metal Products" are available at \$3.00 each from the Superintendent of Documents, Government Printing Office, Washington, D. C. or through the office of ASA.

## Briggs Appointed Director of Bureau of Standards

Dr. Lyman J. Briggs, who has been Acting Director of the National Bureau of Standards since the death of Dr. George K. Burgess in July, 1932, has been appointed Director of the Bureau.

Dr. Briggs' entire career has been spent in the service of the Government. Before his affiliation with the Bureau of Standards he was successively a member of the staff of the Department of Agriculture, in charge of the physical laboratory of the Bureau of Soils, and in charge of the biophysical laboratory of the Bureau of Plant Industry. He was assigned to the Bureau of Standards during the War. In 1920 he was made Chief of the Division of Mechanics and Sound, and in 1926 he was appointed Assistant Director of the Bureau.

Dr. Briggs is a member of the ASA Board of Directors, representing the U. S. Department of Commerce.

## Symposium on Chemicals

A valuable symposium on chemicals and chemical products is contained in the April issue of *Pacific Purchaser*. The symposium is one of a series being published under the title of "Valuable Data for Buyers," containing information particularly useful to any one interested in the purchase of commodities and equipment. Other subjects covered in the series have been Bearings, Office Equipment, Mechanical Rubber Goods, Automotive Equipment, Containers, Packing, Paint, and Machinery. Copies of the April issue are available at 20 cents each from *Pacific Purchaser*, 433 California Street, San Francisco, or may be borrowed from the American Standards Association.

## ASA Publishes Standard on Piping and Fittings for City Gas

The recently approved American Recommended Practice for the Installation, Maintenance, and Use of Piping and Fittings for City Gas (Z27-1933) has been published by the American Standards Association and may be purchased at 35 cents per copy. ASA members are entitled to the usual 20 per cent discount. The National Fire Protection Association, 60 Batterymarch Street, Boston, is sponsor for the project.

# Nationwide Rationalization Aids Japanese Enterprises

*Standardization, simplification, and broad control over production are part of effort to carry industry through depression*

*Following is an abstract of an article by Shigeo Iwakiri, Parliamentary Vice-Minister for Commerce and Industry of Japan, published in the New York "Journal of Commerce." This abstract is printed through the courtesy of the editors of the "Journal of Commerce."*

Although the rationalization movement in Japanese industry is not a recent development, it has come to be supported by public opinion as one of the basic economic needs of the nation only since June, 1930. At that time the Bureau for Rationalization of Industry<sup>1</sup> was established as an emergency measure in the Ministry of Commerce and Industry.

The establishment of this office was attributable to the altered economic conditions throughout the world and to their effect upon industry in Japan.

The most striking feature of our industry is the number of enterprises started with limited capital. Such enterprises do not have adequate resources and skill to hold their own against larger and more powerful competitors. They lack also the spirit of mutual help and control. Reckless competition among them has resulted in excessive production of inferior goods, depletion of operating funds, and the need for wider markets.

Under the circumstances, the rationalization of small enterprises and the provision of means for their reasonable control are urgently needed.

The foregoing portrays the actual condition of industry in Japan. Other nations, equally hard-pressed by the world economic debacle, are only too eager to protect their own industries, build high tariff walls, and encourage their peoples to use their own products. To cope with this trend it has been necessary to carry out a thorough and satisfactory rationalization of industry to make possible the production of goods of creditable quality at reasonably low production costs. In the light of such conditions at home and abroad, the Bureau for Rationalization of Industry as a central organ for such a movement was created.

Generally, rationalization methods are twofold.

<sup>1</sup> The national standardizing body of Japan, which is a member of the International Standards Association.

One is internal rationalization of the individual enterprise and the other is external, involving a number of entrepreneurs. The first comprises scientific management, including investigations for improvement in the technique of control and management. The second refers to such means of market control as the cartel.

Of all the aspects of scientific management, standardization of equipment, machinery, instruments, and tools, and the simplification of products constitute the technical foundation of rationalization.

The Board of Investigation for Standardization of Industrial Products was established in Japan in 1921. This organization, charged with determining standards for industrial products, and the subsequent dissemination of knowledge about and enforcement of adopted standards, was merged into the Bureau for Rationalization of Industry on its establishment.

Standards specified by this Board in the past number nearly 200, of which measurements and sizes of wrought steel, roof tiles, electric brushes, low pressure insulators, file rivets, hexagonal nuts, small screws, and other industrial products, and the finishing measurement of paper, may rightly be represented as important and noteworthy. Articles manufactured or consumed by the Government and articles produced by private factories under instructions from the Government, are made, except in unavoidable cases, in accordance with standards specified.

Since these standards are devised in accordance with the views of industrial organizations, they are widely used and with good results. Workshops of the Government are conspicuous instances of their successful utilization. We may cite the Government iron works at Yawata, where products are produced in accordance with the principle of mass production under uniform and simplified specifications. As a consequence, articles of various descriptions ranging from 600 to 700 in number have been cut to 120 in all.

The amount of steel produced has been increased considerably, whereas the number of workmen employed per ton of steel and the consumption of coal



have been decreased to a marked extent, with a consequent decrease in the cost of production.

Efforts also have been expended for the simplification of other manufactured goods. Private concerns making tinned goods, ready-to-wear clothing, collars, white shirts, stockings, and the like have decided upon simplification by fixing standards.

In addition to standardization and simplification, investigations into all matters helpful to rationalization within enterprises are duties of various commissions permanently established by the bureau. They are the Commission for Control and Management of Financial Affairs, and the Commission for Control of Markets, both of which are endeavoring to find means of improvement in all phases of production, sale, and consumption.

Decisions reached at meetings of these commissions are taken up by the Bureau for Rationalization of Industry for general enforcement. It is necessary at the same time that rationalization be effected in cooperation with private enterprises. For this purpose, the bureau is cooperating with chambers of commerce and industry and other private bodies in giving informative lectures, in distributing pamphlets and other printed papers, and in spreading ideas on rationalization generally. When the Society of Technical Industry of Japan was organized in the spring of 1931, it decided to enter into cooperation in rationalization over a wide field with the Government Bureau for Rationalization of Industry. The Society of Technical Industry has among its members local factory organizations in each province. It should be mentioned in this connection that these local factory groups are headed by influential factory owners. Therefore, the Society of Technical Industry is representative of powerful manufacturers' groups in each locality of Japan, and it is achieving immediate results in effecting rationalization of industry.

The foregoing has been chiefly concerned with the means sought to obtain internal rationalization of industrial enterprises. The maintenance of adequate discipline and control over groups of enterprises and the remedy of evils and shortcomings of industry will be one of the most valuable results of industrial rationalization.

As pointed out elsewhere, disorder and absence of control in our industrial world are fundamental weak points in our economic life. Left uncorrected, it is well-nigh impossible to help trade and industry out of their present difficulties. It may be reasonable to contend that means of rationalization connected with the advance of technique, improvement in machinery, and the uninterrupted circulation of

money and credit will prove effective only when disorder in the industrial world is ended.

In seeking a remedy, it is of first importance to promote adequate discipline and control in all fields of industry, and so assist in establishing a stable foundation. It goes without saying that conscientious self-control among business concerns is an utmost necessity. None the less, the extermination of evils under legal procedure and the authority of the State is desirable. Since the establishment of the Industry Rationalization Bureau, the question of remedial legislation for such purpose has been assiduously studied by the commission interested. Based on the resolution carried by this commission in April, 1931, a law for the control of principal industries was enacted and put into force.

#### *Industrial control law*

The present law for control of industries applies to particular industries selected by the Minister of State, acting upon the advice of the commission of control.

The function of this law is twofold. First, it provides enforcement machinery. In the event that representations are made by a majority of more than two-thirds of the interests involved, the Minister of State, when he thinks it necessary for the protection of the industries concerned and economic conditions in general, is empowered, with the advice of the Control Commission, to make both participants in the agreement and others observe its terms, either in whole or in part.

The other function of the law is the supervision of control. When the "fair and reasonable" interests of consumers and business men engaged in other fields of industry are prejudiced by illegal raising of prices as a result of the agreement, the Minister of State is empowered to dictate its alteration or cancellation.

Briefly, the present law aims to prevent waste resulting from cutthroat competition and to foster manufacture of goods of fine quality at reasonable production costs, as well as their sale at reasonable prices. Thus, it is believed the rationalization of industry will be accelerated. Industries to which the present law is applicable include cotton spinning, silk spinning, artificial silk manufacture, paper and cardboard making, carbide, sulphuric acid, bleaching powder, oxygen, hard oil and cement manufacture, flour milling, pig iron and alloy industries, bar steel, steel angle and plate, rolled steel and brass plate making, carbon bisulphide manufacture, sugar refining, and volatile oil production and sale.



## ASA PROJECTS

Tests for Petroleum Products<sup>1</sup>

by

R. P. Anderson<sup>2</sup>

There are in this country many organizations that develop standards of one kind or another, and, in addition, the American Standards Association, commonly known as ASA, which serves as a clearing house to coordinate the standardization movement in the United States. The ASA is a federation of national technical societies, trade associations, and Federal Government departments. A major function of the ASA is to provide a forum for arriving at national industrial standards, a function which is particularly important when more than one organization is interested in developing standards for the same product, perhaps from divergent points of view.

The usual procedure in the ASA in formulating standards in any field is to organize what is known as a sectional committee, on which all interested groups are represented to provide assurance that any recommendation from the committee will qualify as an "American standard" in the broadest sense of the term. The final approval of standards formulated by a sectional committee rests with the Standards Council, composed of representatives of the Member-Bodies of the Association.

When one thinks of standard methods of testing petroleum products and lubricants in this country, the American Society for Testing Materials and its Committee D-2 on petroleum products and lubricants naturally come to mind. There are now in existence 24 A.S.T.M. standard methods and 14 A.S.T.M. tentative standard methods that are under the jurisdiction of Committee D-2.

The personnel of Committee D-2 is broadly representative of producing, consuming, and general interests and meets the requirements of an ASA sectional committee; in fact, it has been accepted as ASA Sectional Committee Z11 on Methods of Testing Petroleum Products and Lubricants with identical personnel, thus simplifying the procedure of obtaining ASA approval on A.S.T.M. methods. There are now 24 American Standards and six American Tentative Standards covering the testing

of petroleum products and lubricants. In this connection it is of interest to note that all of the A.S.T.M. standard methods on petroleum products and lubricants have also been adopted as standard by the American Petroleum Institute.

Many foreign countries have national standardization bodies corresponding to our American Standards Association, and in 1926 a federation of these national standardizing bodies known as the International Standards Association (ISA) was founded. The purpose of the ISA is the systematic exchange of information on standardization work accomplished or in course of development in the different countries, and the promotion of uniformity in the various national standards, wherever this appears to be feasible and desirable. The membership consists of the national standardizing bodies in the following 18 countries: Austria, Belgium, Czechoslovakia, Denmark, Finland, France, Germany, Holland, Hungary, Italy, Japan, Norway, Poland, Roumania, Russia, Sweden, Switzerland and the United States.

There has recently been created and is now in process of organization ISA Committee 28 on Nomenclature and Methods of Testing Petroleum Products and Lubricants, with many of the European national standardizing bodies and ASA as members. The secretariat of this international committee has been assigned to ASA and ASA has in turn designated the writer its representative on the committee because of his position as secretary of A.S.T.M. Committee D-2 and ASA Committee Z11. The preliminary program of the committee includes the compilation of information regarding the standardization procedure of the various participating countries and the distribution of the existing standard methods of each country to each of the other countries.

There has been a limited degree of activity on the part of certain groups in Europe to promote international standardization through other agencies, in particular through a revival of the International Petroleum Commission, but the sentiment in this country appears to be unanimous in support of the ISA as the organization best suited to foster this sort of development.

<sup>1</sup> Reprinted from *Oil & Gas Journal*, March 30, 1932.

<sup>2</sup> Secretary, Division of Refining, American Petroleum Institute; secretary, Sectional Committee on Petroleum Products and Lubricants (Z11); secretary A.S.T.M. Committee D-2 on Petroleum Products and Lubricants.

There are many obstacles in the path of international standardization, but it seems obvious that even the mere interchange of information will be helpful, and that some progress at least may be expected.

## ASA Approves Standards for Transformers

The standards for Constant Current Transformers, Moving Coil Type (C57.1-1933) have been approved by the American Standards Association as American Standard. These standards were submitted for approval by the American Institute of Electrical Engineers and comprise a revision of the A.I.E.E. standard for Constant Current Transformers of the Moving Coil Type (A.I.E.E. No. 12). The standards were approved by the American Standards Association as existing standards and consigned to the new Sectional Committee on Transformers (C57) for revisions. The Sectional Committee on Transformers is under the sponsorship of the Electrical Standards Committee.

The standards cover service conditions; definitions of apparatus classification, parts and properties of apparatus, systems, and duty classification; rating; heating, including temperature limitations and conditions and methods of making temperature tests; efficiency and losses; dielectric tests; installation resistance; and lead markings.

## New Project on Reference Data for Periodicals Initiated

The American Standards Association has approved the initiation of a project on Reference Data for Periodicals (Z29). The new project is the result of recommendations made at a conference held under the auspices of ASA at the request of the American Library Association. In requesting the conference the Association pointed out that confusion in order records, indexing, cataloguing, and binding of periodicals results from lack of uniformity in the publication in periodicals of data such as frequency of issue, names of those responsible for editorial and publishing policies, place of publication, and time of appearance of title pages and indexes.

Representatives of the American Library Association, the Special Libraries Association, the American Council of Learned Societies, Associated Business Papers, Inc., Engineering Index Service, Engineering Societies Library, Publishers' Weekly, and the Mc-

Graw-Hill Publishing Company were among those who attended the conference and recommended the initiation of the project.

The appointment of a committee representative of the groups most directly interested in the project is now under consideration by the American Standards Association. This committee would draft a proposal for submittal to all groups concerned, for their consideration and acceptance as an American Recommended Practice.

## Revised Standard Designs for Rails and Bars

Revisions of seven standards covering the design for rails and splice bars used by electric railways have just been approved by the American Standards Association, following their submittal by the American Transit Association. The titles of these standards, with their ASA and A.T.A. designations, as well as their status, are given below:

Design for Seven-Inch Girder-Grooved Rail (A.T.A. Section No. 122 ER 7B) *American Standard* (E4-1933)

Design for Nine-Inch Girder-Grooved Rail (A.T.A. Section No. 134 ER 9B) *American Standard* (E5-1933)

Design for Seven-Inch Girder-Guard Rail (A.T.A. Section No. 140 ER 7B) *American Standard* (E6-1933)

Design for Nine-Inch Girder-Guard Rail (A.T.A. Section No. 152 ER 9B) *American Standard* (E7-1933)

Seven-Inch 82-lb Plain Girder Rail and Splice Bars for Use in Paved Streets (A.T.A. Rail Section No. 082 ER 7A) *American Standard* (E8-1933)

Seven-Inch 92-lb Plain Girder Rail and Splice Bars for Use in Paved Streets (A.T.A. Rail Section No. 092 ER 7A) *American Tentative Standard* (E9-1933)

Seven-Inch 102-lb Plain Girder Rail and Splice Bars for Use in Paved Streets (A.T.A. Rail Section No. 102 ER 7A) *American Tentative Standard* (E11-1933)

Changes in the revised standards are minor in character, mainly consisting of re-arrangements or additions to the data given in the form of notes and tables. In two of the standards—E6-1933 and E7-1933—slight changes in dimensions have been made in order to facilitate the attachment of the splice

bars joining these girder-guard rails to the corresponding girder-grooved rails—E4-1933 and E5-1933, respectively.

The American Transit Association has been granted proprietary sponsorship to care for future revisions of these standards.

## National Safety Codes Mandatory in Maryland

The State Industrial Accident Commission of Maryland has approved 32 of the American Standard Safety Codes for use in connection with its inspection service. These include, among others, the safety codes for the use, care, and protection of abrasive wheels; the building exits code; the safety codes for the prevention of dust explosions; the National Electrical Safety Code; the code for elevators and escalators; for floor and wall openings, railings, and toe boards; for the protection of industrial workers in foundries; for ladders; for lighting factories, mills, and other work places; the safety code for mechanical refrigeration; and the recommended practice for rock dusting of coal mines.

These codes are administered by the Industrial Accident Commission through a Director of Safety. They have not been reprinted by the Commission and are obtained by the industries of Maryland through direct purchase from the American Standards Association. They are mandatory on the industries of the state and orders issued by the Director of Safety for removing hazardous conditions in the industries are based on the provisions of the national safety codes which the Commission has adopted.

## Specifications for Wires and Cables Approved as American Standards

The American Standards Association has approved Standard Specifications for Code Rubber Insulation for Wires and Cables for General Purposes (C8.11-1933) as American Standards. These specifications were prepared by the Sectional Committee on Insulated Wires and Cables (C8) which is under the sponsorship of the Electrical Standards Committee.

The specifications apply to the insulation for electric wire and cable of the grade known to the electrical trade as "Code." They are divided into the following parts: workmanship; properties, such as

thickness of insulation, chemical, physical, and electrical properties; measurements and tests, such as dimensional measurements, chemical, mechanical, and electrical tests.

## New Subcommittee on Nomenclature of Coal Classification Committee

Progress in the work of the Sectional Committee on Classification of Coal (M20), under the sponsorship of the American Society for Testing Materials, has been so favorable that a new subcommittee has recently been appointed. This group, called the Technical Committee on Nomenclature, has been set up to recommend names for the groups, classes, and sub-classes of coal according to rank and type. Although the literature of coal technology, including the reports of the previous work of this sectional committee, contains names that have been customarily applied to coals of various types, it is understood that this new technical committee will present recommendations based upon its own investigations in this field. The committee, appointed by A. C. Fieldner, chairman of the sectional committee, is as follows: E. A. Holbrook, dean, School of Engineering, School of Mines, University of Pittsburgh, Pittsburgh, Pa., *chairman*; G. H. Ashley, state geologist, Topographical and Geological Survey Commission, Harrisburg, Pa.; H. N. Eavenson, president, Clover Splint Company, Pittsburgh, Pa.; W. H. Fulweiler, chemical engineer, United Gas Improvement Company, Philadelphia, Pa.; T. W. Harris, Jr., division purchasing agent, E. I. duPont de Nemours & Company, Wilmington, Del.; T. A. Hendricks, assistant geologist, U. S. Geological Survey, Washington, D. C.; M. M. Leighton, state geologist, State Geological Survey, Urbana, Ill.; H. J. Rose, Senior Industrial Fellow, Mellon Institute, Pittsburgh, Pa.; E. Stansfield, University of Alberta, Edmonton, Alberta; F. R. Wadleigh, Cape May Point, N. J.

## Organization of Committee on Electrical Measuring Instruments

The organization meeting of the Sectional Committee on Electrical Measuring Instruments (C39), under the sponsorship of the Electrical Standards Committee, was held in New York on June 2, 1933. E. J. Rutan of the New York Edison Company was elected chairman and H. Koenig of the Electrical Testing Laboratories, New York, was elected secre-

tary. Two subcommittees were appointed, one on Definitions, and the other on Classification, Rating, Methods of Test, and Construction.

The sectional committee, in its capacity as adviser on indicating electrical instruments to the U. S. National Committee of the International Electrotechnical Commission, formulated proposals to be sent abroad for consideration by the international advisory committee, which is holding a meeting the latter part of June.

### Standard Specifications for Gypsum Approved by ASA

The following five specifications for gypsum and gypsum plasters have been approved by the American Standards Association as American Standards:

Specifications for Gypsum (A.S.T.M. C22-25)  
(A49.1-1933)

Specifications for Calcined Gypsum (A.S.T.M. C23-30) (A49.2-1933)

Specifications for Gypsum Plasters (A.S.T.M. C 28-30) (A49.3-1933)

Specifications for Gypsum Molding Plaster (A.S.T.M. C 59-30) (A49.4-1933)

Specifications for Gypsum Pottery Plaster (A.S.T.M. C 60-30) (A49.5-1933)

These standards were developed by A.S.T.M. Committee C-11 on Gypsum and cover gypsum and gypsum plasters now available for engineering, industrial, and agricultural users (*see* INDUSTRIAL STANDARDIZATION, June 1933, pp 102-103).

The American Society for Testing Materials has been granted proprietary sponsorship for future revisions.

Copies of the standards are available from the A.S.T.M., 1315 Spruce Street, Philadelphia, or from ASA at 25 cents each. ASA members are entitled to the usual discount.

### Revisions of Code for Protection Against Lightning

Revisions of Part I of the Code for Protection Against Lightning, covering protection of persons (C5.1-1933), and Part II, covering protection of buildings and miscellaneous property (C5.2-1933), have been approved as American Standards by the American Standards Association. The third and last part of the Code, covering protection of structures

containing inflammable liquids and gases, formerly C5-1929—Part III, has been redesignated as C5.3-1929 for the purpose of uniformity, although no change in this part of the Code is involved in this revision.

### Safety Engineers Metropolitan Chapter Names Ainsworth General Chairman

Cyril Ainsworth, assistant secretary of the American Standards Association, has been elected General Chairman of the Metropolitan Chapter of the American Society of Safety Engineers—Engineering Section, National Safety Council for the year 1933. Mr. Ainsworth, who before his affiliation with the American Standards Association was Director of the Bureau of Industrial Standards of the Pennsylvania Department of Labor and Industry, is in charge of the safety code work of ASA.

The Metropolitan Chapter has sponsored for the past four years the Greater New York Safety Conference and as part of his new duties Mr. Ainsworth is already developing plans for the fifth safety conference to be held next March.

### Standard for Inch-Millimeter Conversion Factor Available

The American Standard Practice for Inch-Millimeter Conversion for Industrial Use (B48.1-1933), recently approved by the American Standards Association, has been published by ASA and is available at 20 cents per copy. (For discussions concerning this project see INDUSTRIAL STANDARDIZATION, November, 1932, pp 287 and 295, and April, 1933, p 73.) ASA members are entitled to the usual 20 per cent discount.

### Simplified Practice Recommendation on Production Screens

The Division of Simplified Practice of the National Bureau of Standards has announced that the Simplified Practice Recommendation on Wire Diameters for Mineral Aggregate Production Screens has been adopted by industry, under the procedure of the Division of Simplified Practice, and may now be considered effective. Copies of the Recommendation may be ordered from the American Standards Association or from the Government Printing Office, Washington, D. C.